Cabin door at Ft. Egbert, Eagle, Alaska, 1983. © R. Drozda.

Language Work In Alaskan Athabascan And Its Relationship To Alaskan Anthropology

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Abstract: This paper provides context on my 30-plus years of work with Alaska Athabascan languages. I discuss features of my research program in Athabascan that relate to anthropology, emphasizing the two languages I have spent the most time with, Dena'ina and Ahtna, and four research areas: lexicography, narrative, ethnogeography, and prehistory. I conclude with some observations on the prospects for Alaska Athabascan research.

Keywords: Athabascan language research, Ethnogeography, Dena'ina prehistory

INTRODUCTION

I first came to Alaska in May of 1972 when I spent two weeks in Kenai doing linguistic field work on Dena'ina. At the first meeting of the Alaska Anthropological Association (aaa) in March of 1974 I gave a paper on Dena'ina dialects. I have been a regular participant at aaa meetings, and this is my favorite annual conference.

I have been engaged in long-term documentation on two Alaska Athabascan languages, and I have done specialized work in several others. I have an eclectic Boasian research program, and I can be labeled a "documentary linguist," to use a recently coined term (Himmelmann 1998). By my count I have done some original field linguistics on 18 Athabascan languages and with more than 350 speakers. I have published linguistic materials on Athabascan that are relevant both to anthropology, and to the separate field of Athabascan linguistics. Since retiring from the University of Alaska Fairbanks (UAF) in 1997 I have developed a home office with computer and audio equipment and storage space. I continue to work on these languages on a selective basis, where I see my time and experience are best applied. I have been a participant-observer in several Alaskan language communities that have been affected by my language work.

Whenever I present myself to do field work with speakers of one of the Athabascan languages, I use the term "language work" to announce or explain what I do. Language work, as I wrote in a 1991 article for the Tanana Chiefs Conference's *Council,* embraces the array of goals and methods that I employ, and the term is valid and understandable in communities where I have long-term relationships with expert speakers.

I first became interested in Athabascan research when I was a high school teacher on the Hoopa Reservation in Northern California in 1969-70. In 1970 I began graduate work at the University of New Mexico (UNM) in the Linguistics and Language Pedagogy Program. At UNM I had the opportunity to study Navajo language and linguistics with Bob Young, who had just retired from his first career with the Bureau of Indian Affairs. I took linguistics and anthropology classes in the Anthropology Department with Bruce Rigsby and the late Stanley Newman. I received extensive commentary on my dissertation on Navajo phonology from Young, Rigsby and Newman, as well as from Ken Hale of the Massachusetts Institute of Technology (MIT) and Mike Krauss of UAF.

I was one of a group of scholars in the 1970s who embarked upon a socially oriented linguistic research program that was articulated notably by the late Ken Hale, the linguist and humanitarian from the MIT Department of Linguistics. Hale—in his linguistic field work, teaching and writings—set out an idealistic agenda for scholars who chose to work in what at times were referred to

as "fourth world remnant languages." I was in the Peace Corps in Turkey from 1966 to 1968, and took on a "Peace Corps commitment" to my research in Athabascan.[1]

Some specific features of this 1970s agenda included the following. (A) Research on small indigenous language should be endorsed as being worthwhile and useful to the local language community. (B) The primary goal was to engage in long-term, in-depth documentation of the language. This involves extensive documentation of texts, dictionary research on specialized fields of knowledge, and the development of lessons and basic grammatical materials. (C) Materials on the language should be practical and understandable to the local communities. Academic publications on the language can bridge local and external audiences and can enhance the prestige of the language and the intellectual traditions of the language community. (D) There can be multi-faceted opportunities for professional advancement in the language community such as authorship by storytellers or writers, Ph.D.-level research by speakers, or the training of local people in literacy and teaching skills. The indigenous languages should be taught in regional universities and in local schools. This linguistic activism that began in the 1970s has carried on and is reflected in the recent book edited by Leanne Hinton and Ken Hale (2001).

The Alaska Native Language Center (ANLC) was founded at UAF in 1972, and its mission statement has a similar agenda. As expressed by Mike Krauss (1980:55): "It is the task of linguistics to document or preserve as complete as possible a record and description of all these languages for posterity, regardless of their fate as spoken languages. This much is clear: that it is reasonably well within our capabilities and also our intentions now to produce detailed descriptions of their grammars, comprehensive dictionaries of their lexical inventories, and extensive records of them in text, especially narrative, including at least a large sample of traditional oral literature. This work will be of lasting value to the people themselves and also to the world at large, and on this we at the Alaska Native Language Center place high priority."

I found writing this paper for this symposium to be instructive. My colleague John Ritter of the Yukon Native Language Centre in Whitehorse and I frequently reflect upon our similar careers. We discuss the idealistic climate when our work began, and on the types of research that we were doing in our first years with the expert speakers that cannot be replicated today. In the remainder of this paper I will discuss some features of my research program in Athabascan that relate to anthropology, emphasizing the two languages I have spent the most time with, Dena'ina and Ahtna. I then profile four research areas: lexicography, narrative, ethnogeography, and prehistory; and conclude with some observations on the prospects for Athabascan research in Alaska.

KARI'S LANGUAGE WORK IN ALASKA: 1972-2003

I have a long-term specialization in the Copper River and Cook Inlet regions. I have worked with most of the expert Dena'ina and Ahtna speakers of our time, and I maintain relationships with many speakers and their families. A formative time in my work was 1973 to 1977 when I lived in these language areas and worked with many experts on a regular basis.

The cumulative records for these languages are now large, and can probably be called massive. My research on the Ahtna and Dena'ina languages encompasses all of the sources on the people and the region: e.g., anthropology, ethnohistory, natural history, archaeology and so forth. For Dena'ina I have 2768 pages of notes in 26 Dena'ina notebooks, and for Ahtna I have 1267 pages of notes in 14 notebooks. The lexicographic data bases (or draft dictionaries) for these languages are large and eclectic. They incorporate the regional dialects and the major domains of knowledge about the traditional culture and environment. These records organize my sessions with the experts, and also motivate and prioritize what I choose to work on or to produce in Ahtna and Dena'ina. My main collaborators and I have a mutual sense of this cumulative record. We can venture into new topics that expand the regional documentation.

Key principles have been to (1) strive for greater depth and breadth of coverage on the language and ethnography, and (2) process lots of information by keeping many projects going concurrently. My work on these languages can be described as "particularism" or "low-level descriptive work." I have assembled lexicons, place names lists, charts, narratives, and literacy exercises. Products range from small edition books (dictionaries and texts); to "gray literature" typescripts, reports, charts, and

[1]In the 1960s and early 1970s my approach toward research and field work was influenced by several writers. I first learned about Athabascan languages by reading Edward Sapir's *Language* (1921) in 1969 when I was teaching high school on the Hoopa Reservation in California. At the same time I was intrigued by Jaime de Angulo's *"Indians in Overalls"* (1950), a memoir about language work with the Achumawi people in Northern California. I was also inspired by Gary Snyder (writings such as his 1977 book *The Old Ways*), and by Ivan Illich (e.g., *Toward a History of Needs*, 1978, and "Vernacular Values," 1980).

lists; to articles in refereed publications. The ratio of materials in Ahtna and Dena'ina that are published vs. unpublished (written and digital) might be 25% to 75%.

My formal teaching of Ahtna or Dena'ina language, linguistics, or anthropology has been unconventional. In the first years I encouraged two writers, Peter Kalifornsky and Albert Wassillie, who made important contributions to Dena'ina (Kalifornsky 1991; Wassillie 1979, 1980). Between 1975 and the early 1980s I supported several speakers who taught the languages in short-lived programs in local schools. At UAF I taught some survey courses on Athabascan linguistics and anthropology, and have also been on several anthropology graduate committees on Athabascan research topics.

LEXICOGRAPHY

My lexicographic work in Ahtna and Dena'ina began by assembling stem dictionaries on 4"x6" slips of paper in file boxes. After each field session I would revise slips or add new slips to the files. Research on topical lexicon has been the cornerstone of my ethnographic research. The noun lexicon is researched in fields: e.g., natural history, anatomy, kin terms, band names, material culture, and so forth. These topical word lists reflect local technical knowledge and classification. I incorporated the previous vocabulary records for these languages that Mike Krauss was assembling at the ANLC library (such as the 19th century vocabularies recorded in Cook Inlet, or lexicon recorded by Frederica de Laguna for Ahtna). For Dena'ina I continue to refine a large topical dictionary that has been circulating in a draft (Kari 1994).

It is not widely known, but most of the new ethnographic information for Alaskan Athabascan that has accumulated in the past 30 years has been done in the context of lexicography on one of the languages. The finest, most elaborate ethnographic and linguistic record for an Alaskan language and culture is the Koyukon dictionary by Jetté and Jones (2000). A comparative Athabascan perspective has developed for Alaska Athabascan languages through topical work in several languages (i.e., Lower Tanana [Krauss 1974]; Holikachuk [Buck and Kari 1975; Kari 1977; Kari 1978a]; Deg Hit'an [Kari 1978b]; Koyukon [Jetté and Jones 2000]; and Inland Tlingit [Leer et al. 2001]). There are many research topics that derive from the knowledge domains of topical vocabulary research; for instance, in ethno-biology and ethno-ecology, material culture, and abstract domains such as religion and song. Three in-depth traditional ecological knowledge studies are expansions of the Ahtna or Dena'ina topical vocabulary research of the 1970s: a Dena'ina ethnobotany by P. R. Kari (1987), a Dena'ina ornithology (Russell and West 2003), and an Ahtna salmon fishing study (Simeone and Kari 2002). As I mention later, lexical analysis also contributes to the study of Athabascan prehistory.

Concurrent with my early topical research was the filing of verbs in the slip file stem lists. The main focus of my grammatical work on Athabacan has been the analysis of "verb themes" and the study of word formation in the Athabascan verb (e.g., Kari 1989, 1992). My 1979 study of Ahtna verb theme categories was the basis for the format for the 1990 *Ahtna Athabaskan Dictionary*, and that work has influenced lexicographic work in several other Athabascan languages. The verb theme and verb theme category are the morphological and semantic organizing principles for grouping the hundreds and even thousands of verb derivatives that can be derived from a single verb theme. The editorial placement of sets of verb data is a fascinating exercise, and can be a salient topic for students of Athabascan grammar or lexicography.[2]

Lexicographic research presents many strategic challenges. The Koyukon dictionary project was long and costly. Since there are few specialists working in Alaskan Athabascan, it is best to plan for smaller dictionaries that can be updated and published in inexpensive formats. Since the publication of the 1990 *Ahtna Athabaskan Dictionary* I have not kept up with data entry for the Ahtna files. The 1990 dictionary went out of print in 2001, and there is now a lot of new Ahtna material. We can weigh whether to reprint the 1990 Ahtna dictionary or to expand it into a 2nd edition. I have been updating the Dena'ina dictionary files from time to time, but the Dena'ina files have not received the even editorial treatment that precedes publication. Typical strategic questions are how to divide one's time between producing the Dena'ina topical dictionary, continuing to develop Dena'ina texts, and completing a large Dena'ina stem dictionary.

NARRATIVE

Narratives and texts with interlinear translation and discussion are the benchmark of the long-term Boasian research program. Narratives in various forms (stories,

[2]I can mention the important role played by Bob Hsu, formerly of the University of Hawaii, who brought his Lexware programs to the Alaska Native Language Center in 1981. This marked the beginning of computerized lexicography in Alaska. Bob's programs and his approach to data entry and data review gave a tremendous boost to work in several Athabascan languages.

anecdotes, technical descriptions, speeches, spontaneous conversation) are an important complement to structured elicitation for the creative presentation of language and for the transmission of cultural information. However, work on texts is very time-consuming, and publications of texts for the smaller languages are becoming increasingly rare. In fact, Himmelmann (1998) did a survey of recent publications on the lesser languages, finding a ratio of 10::3::1 for grammatical studies vs. dictionaries vs. texts.

I have had the opportunity to work with many of the great storytellers and raconteurs in Alaskan Athabascan. I have worked on story collections for Ahtna with Katie John, Fred John, Jake Tansy, Jim McKinley, Fred Ewan and Frank Stickwan; for Dena'ina with Shem Pete, Albert Wassillie, Pete Bobby, Peter Kalifornsky, and Emma Alexie; for Deg Hit'an with Belle Deacon; for Lower Tanana with Peter John and Hester Evan; and for Upper Tanana with Mary Tyone and Andy Frank. My emphasis has been on the recording of formal monolingual Athabascan texts of ethnographic and folkloristic importance: legends, historic and prehistoric events, ethnographic descriptions, and geographic narratives. Usually the speaker and I have discussed potential topics in advance, and we have made audio recordings in a following session. In the more extensive collections–with Shem Pete, Jake Tansy, Hester Evan, Mary Tyone, and Katie John–we have developed a broad inventory of narratives in a range of personal styles. In recent years I have recorded some English-based interviews, for example on Ahtna fish. The majority of the recordings I have made are in Athabascan without English. I have also recorded some lesson materials such as key words and basic sentence patterns. I have done little recording of spontaneous language use (speeches or conversations), and not much recording of linguistic elicitation. Looking back, I regret that I did not record more conversation and linguistic elicitation with some of my closest friends, such as the late Feodosia Sacaloff of Kenai and the late Martha Jackson of Copper Center.

Narrative is the highest register of Athabascan discourse, and narrative transcription and translation is the most elite use of my experience and skills. I have edited and published text collections in five different languages—Ahtna, Dena'ina, Deg Hit'an, Lower Tanana, and Upper Tanana. I continue to work on some narratives, however, the great portion of the narrative materials I recorded — 70% or more — remain untranscribed and untranslated.

The skills involved with transcription and translation of Native language texts tend to be underestimated. Every word and every sentence must be accounted for. Spot proof reading with expert speakers must be prepared for in advance. Working through many drafts improves the transcription and translation. When a text is completed in interlinear format, it should then be placed in the language's dictionary files. For Ahtna and Dena'ina (and most other Alaskan languages) we face the challenge of reviewing texts with speakers who can understand the content well.

I have begun to digitize the Ahtna and Dena'ina audio collections to facilitate access to the analogue tapes. For Dena'ina there is a cross-collection index of audio recordings, and this will be the first consolidated audio collection for an Alaskan language. The audio files for these languages will be important in future work. We are now able to create compilations and specialized audio files. For some of the languages and dialects it is possible to produce audio learning materials by assembling audio clips in structured lessons.

Much of the future work in Alaskan Athabascan languages will be centered on the development of narrative and speech collections that have been recorded and transcribed in the past 30 years. This will require the integrated indexing of paper and digital files, the conversion of digital files to common formats, and, of course, the central task—transcription and translation. A current grant for Dena'ina (the DATA NSF project with Eastern Michigan University) will focus on the archival storage and retrieval of Dena'ina texts and sound files. The analysis of texts can contribute to ethnographic reconstruction and to models of regional prehistory. But texts are an underutilized source in Alaskan anthropology—many important texts of several genres remain neglected. An important objective for Alaskan anthropology and linguistics is to develop course work on the development and analysis of texts in the Alaska Native languages.

The future of the publication of texts in the Alaska Athabascan languages is problematic. In the past ten years ANLC has published just four books of texts in three Athabascan languages. Typically, there is a small audience for a book of texts, making them expensive to print and distribute. In addition, many valuable language publications and materials from the past 30 years are rare and unavailable.

ETHNOGEOGRAPHY

Ethnogeography has been the most rewarding area of my work in Alaskan Athabascan languages. I first saw the importance and urgency of researching place names with my early work with Peter Kalifornsky in the 1970s. Peter and I recorded about 250 place names in Lower and Middle Cook Inlet, and at the time he was the only person who knew over 80% of these names. I have documented networks of place names in 10 of the Alaskan Athabascan languages and in Babine-Witsu Wit'en in British Columbia. Also, I have been an advocate for standards in ethnogeographic research, and for the reconstruction, revival, and establishment of Native place names in Alaska.

Since the 1970s there has been considerable interest in place name research in many Alaska Native languages. Much of this work is unpublished or is in the gray literature, often with unconsolidated data and ad hoc cartography. Systematic ethnogeographic research involves a combination of linguistic, ethnographic, philological, and historical methods as well as a mapping component. There can be numerous sources of place names data for one region, with inconsistent spellings and locations. A place names list from one expert speaker can vary in authoritativeness as he moves from an area he knows intimately, to one that he knows from hearsay. The key question when evaluating a Native place name data set for a region or a language is: have all the documentary materials been consolidated?

Ethnogeographic data are best maintained in a data base print out with accompanying laminated maps. These materials can be circulated, reviewed and refined with the key persons who know the toponymy of the region. A place names data base and map require vigilant maintenance. A new name or a new location for a name can have a ripple-effect on surrounding names. An authoritative publication on a place names corpus is very time-consuming, as we see in the 2nd edition of *Shem Pete's Alaska* (Kari and Fall 2003). The new edition has 25% more names than the 1987 edition, with many refinements in locations or translations. We have an extensive discussion of our editorial and field methods in the new book.

For some Athabascan languages such as Ahtna, Upper Tanana, Lower Tanana, and Dena'ina, there is good coverage on the names, and we can analyze the semantic content and distributional patterns in the names. Even when there is a fragmentary record of place names, such as for Middle Tanana between the Chena River and the Delta River (where I have about 170 place names on file), this serves as a template for the interpretation of the ethnographic records.

Systemic features of Athabascan ethnogeography are important for the study of Athabascan prehistory. The conventions for transmitting the names and the many patterns in the structure and the distribution of names indicate that the Athabascans have an "official" geographic names system. For example, (A) there is a common set of names that extends across Athabascan language boundaries; (B) there are cases of patterned repetition in names; and (C) some overt boundary-marking place names can be detected. But the most striking features are (D) the broad regional patterns in Northern Athabascan hydronyms and oronyms that predate language differentiation and that reflect prehistoric Athabascan geopolitical decision-making (Kari 1996a, 1996b).

Athabascan place names have been essential to Athabascan land tenure, and it is interesting to contrast the recognition of place name research between Alaska and its precipitous land claims settlement, with Canada or Australia, where ethnogeographic research materials have been part of long-term land claims negotiations. I was an expert on the Dilgamuukw case in British Columbia in the late 1980s. The legal implications of features of the Witsu Wit'en and Gitksan geographic materials, as summarized in Rigsby and Kari (1987), were buried under layers of materials and did not get properly argued.

Indigenous place names have wide public appeal, and there are many options for place name materials in books, curriculum, brochures, maps, and signs. It is gratifying to see the growing trend in Alaska to establish correctly spelled indigenous place names as official geographic names. This is now fostered by the guidelines of the U.S. Board of Geographic Names and the Alaska State Board of Geographic Names which, in turn, have been influenced by the progressive place name policies of our Canadian neighbors.

Native place name maps are important for linguistic revitalization. Some recent place name maps that offer contrasting perspectives are: (1) the multilingual place name map for the Yukon Territory (Yukon Native Language Centre 1999) that presents major stream and lake names in nine languages; (2) Drozda et al.'s (2002) Nunivak Island place name map with a selection of the major Cup'ig names on a traced base map of the island that gives an overview of the Native toponymy without reference to the official toponymy; (3) the 2nd edition of S*hem Pete's Alaska* (Kari and Fall 2003), which pre-

sents the composite reconstructed Dena'ina place name network on attractive shaded-relief chapter maps drafted by Matt Ganley; and (4) the 2001 edition of the USGS 1:25,000 quad maps for the Pribilof Islands, which have fifty or so Aleut place names shown in parentheses next to the official place names and spelled in the Aleut orthography.[3] The new Pribilof quad maps set an important cartographic/ linguistic precedent and will be powerful tools for place name and language preservation.

SOME LINGUISTIC CONTRIBUTIONS TO ATHABASCAN PREHISTORY

Linguistic prehistory began as a subfield of historical linguistics with 19th century Indo-European studies. Sapir (1916) remains a classic treatise on methods for combining linguistic, ethnographic, archaeological, and geographic sources to make inferences about "time perspective" in unwritten languages. When the documentary records for languages in a region become large, there are many "linguistic ways to prehistory" (Deibold 1987). In this section I summarize two topics that apply some of these methods to make some inferences about Athabascan prehistory.

DENA'INA EXPANSION INTO COOK INLET

Dena'ina expansion throughout Cook Inlet was identified as a research problem by Wrangell in the 1830s and was next explored by deLaguna and Osgood a century later. The Dena'ina language has deep dialect divisions that reflect the great geographic barriers. The language is on both sides of the Southern Alaska Range, and it straddles Cook Inlet. I have been proposing a model of Dena'ina expansion into Cook Inlet from west of the Alaska Range based upon internal dialect patterns and geographical inferences (Kari 1975, 1988, 1996c; Kari and Fall 2003).

In my view, the role of prehistoric linguistic evidence has not been fully absorbed in discussions of Cook Inlet prehistory. My 1988 paper has quite a bit of detail on regional aspects of Dena'ina expansion and adaptation. One major control on Dena'ina movements is the extensive "Ahtnaization" of the Upper Cook Inlet Dena'ina dialect, which demonstrates that the Upper Inlet was the first part of Cook Inlet Basin that the Dena'ina occupied, and that the Kenai Peninsula was first colonized by Dena'ina coming from the west across Cook Inlet and *not* from Upper Cook Inlet.

The expanding archaeological records show that the Dena'ina arrived on the west-central Kenai Peninsula just following 1000 a.d., and reached Kachemak Bay soon after (Reger 1998; Reger and Boraas 1996; Workman 1996). Alan Boraas et al.'s (2001) paper on contrasting salmon harvest technology and site distributions on the Kenai River provides further corroboration. Eskimo drift net fishing for sockeye in the main stem of the Kenai River predates Dena'ina weir fishing for king salmon and silver salmon on the side streams of the Kenai River.

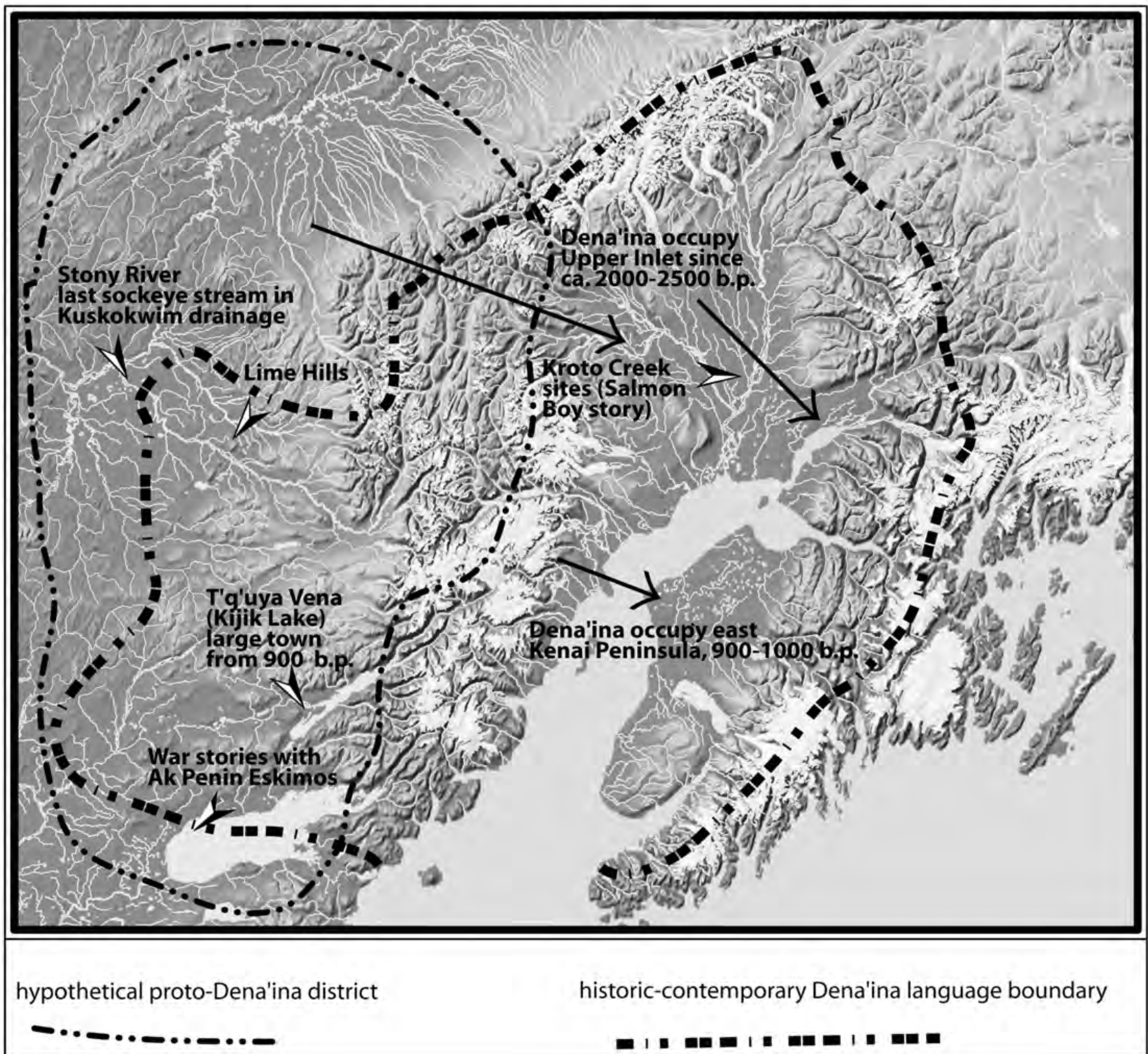
The large site complex in the Kijik Lake area is the locus of exciting research. As noted in Branson (2003), this complex of sites consists of 17 village clusters, more than 250 house pits, six large "dance halls," and from 2000 to 3000 fish cache pits sprawled over about 2000 acres. Fifty sample dates have yielded dates between 1090 a.d. and 1900. Branson notes that this does not preclude the possibility of earlier dates, as more house sites are being discovered annually and major excavations have not taken place. This may have been the largest Athabascan settlement in Alaska for 600 years or longer (with perhaps 1000 to 2000 people). Kijik was evidently the main staging area for Dena'ina expansion into lower Cook Inlet. The new sockeye salmon dating techniques developed at the University of Alaska Fairbanks correlate long-term climate change and fish cycles (Finney et al. 2002). Bruce Finney is analyzing cores from several lakes west of Cook Inlet (lakes Clark, Iliamna, Kijik and Becharof). Finney (October 2003, written communication) forwarded me one chart of dates from Kijik Lake which indicates that sockeye abundance increased there after 500 a.d. We should be able to examine Dena'ina language and ethnographic data on fish harvest and fish preservation to amplify how, when, and where the Dena'ina developed intensive fishing.

A set of Dena'ina war narratives told by elders from Nondalton and Kijik (known as the Ts'enhdghulyał stories) refer to warfare and altercations with Eskimo peoples who are located to the southwest on the upper Alaska Peninsula. In perhaps a 10-to-20 year period the Dena'ina successfully thwarted Eskimo expansion into upstream drainages. One implication of the Ts'enhdghulyał stories is that the Dena'ina were in place on Lakes Iliamna and Clark, centered on the Newhalen River, and that the Eskimo did not occupy Iliamna Lake at that time.

In my 1988 paper (Kari 1988:323, 330), I cite a little known paper by Danish Eskimologist Louis Hammerich

[3]The Aleut names are treated as "variant names" to the official names, and were submitted as a batch of names to the US Board of Geographic Names, and were then entered into the USGS's GNIS data base.

Figure 1. The Dena’ina language area in prehistoric context



(1960:87-88) in which he suggested that the “inland paradise” of Iliamna Lake may have been the center of the proto-Eskimo-Aleut homeland, and that the deep separation between Aleut and the Eskimo languages is the result of the stock being “...divided in two by an Indian wedge in the Iliamna area.” Hammerich speculates that this division could have occurred some 3,000 years ago. I think that the “Indian wedge” hypothesis is viable and that his suggested dates are reasonable. The archaeological implications of the Ts’enhdghulyał stories are considerable, and it is clear from these stories that the Dena’ina have claim to prior occupation of Lakes Iliamna and Clark.

Figure 1 is a schematic representation of this model of Dena’ina movements into Cook Inlet Basin from the west. Evidence for this “proto-Dena’ina district” in the Lime Hills piedmont area is summarized in Kari and Fall (2003:144-148). The Stony River is the last sockeye stream in the Kuskokwim River drainage and has a great year-round fishery. At some point the Dena’ina annexed Lakes Clark and Iliamna. It seems that the Dena’ina entry into Upper Cook Inlet must have preceded the Dena’ina arrival on Kenai Peninsula by one millennium or more. Several key site complexes in upper Cook Inlet, such as lower Kroto Creek, the locus of the ‘Salmon Boy’ story (Kari and Fall 2003:184), remain poorly known. The

Kustatan Peninsula also looms large in the model of Dena'ina expansion.

FISH IN ATHABASCAN PREHISTORY

A preliminary study of Athabascan fish terms and fish biogeography in the Northern and Pacific Coast Athabascan languages was completed by Kari (2002). To give one example of inferences that can derive from fish vocabulary comparisons, several trout (*Salmonidae,* rainbow, steelhead and Dolly Varden) occur in abundance in Alaska, mainly south of the Alaska Range (i.e., in the Ahtna and Dena'ina language areas). However, these languages have two different generic terms for 'non-salmon, trout,' Ahtna "tsabaey" (also used in Upper Inlet Dena'ina), and Dena'ina (Inland and Outer) "shagela." These words are extensions in meaning of terms in Tanana Valley Athabascan languages for 'whitefish' (*Coregonus* sp.*)* and 'Arctic grayling' (*Thymallus arcticus*), respectively. These two independent innovations suggest that early Ahtna and Dena'ina peoples were incursive to territories south of the Alaska Range and that each added 'trout' to their lexicons separately.

It appears that the oldest ensemble of fish species in Athabascan languages is from the Alaska-Yukon zoogeographic province (humpback whitefish, king salmon, chum salmon, round whitefish, lake trout, grayling, and ling cod). Fish that are unique to the Pacific province—sockeye, Dolly Varden, steelhead, and rainbow trout—were encountered as language groups annexed drainages and then innovated terms for newly encountered species. I hypothesize that proto-Athabascan (1) had three salmon species—king salmon (*O. tshawytscha)*, silver salmon (*O. kisutch)*, and chum salmon *(O. keta)*; but (2) it lacked the most abundant and nutritious food fish—sockeye salmon (*O. nerka*), as well as humpback salmon *(O. gorbuscha)*. It appears that Athabascan bands expanded into areas with sockeye at different times and, having no common term, the languages innovated distinct terms. One implication of the king salmon vs. sockeye salmon vocabulary patterns is that anciently Proto-Athabascan was based on the upper Yukon River system where groups could harvest three salmon species but not sockeye, perhaps like the historic Gwich'in or the Northern Tutchone.

A thorough fish inventory in an Athabascan language should account for the species inventory in and near the language area, as well as terms for the main varietal forms of fish. However, the lexicographic data across the Athabascan languages vary greatly in depth and sophistication of glossing, and in dialect coverage. In a few languages there is thorough coverage and good identifications of fish (i.e., Dena'ina, Ahtna, Koyukon, Babine-Witsu Wit'en, Hupa, Kato, Tolowa). However, many Canadian languages have weak coverage on fish terminology (e.g., Beaver, Dogrib, Hare, Northern Slavey, and Southern Slavey). Incomplete records constrain us from making a fuller analysis and reconstruction of fish in Athabascan prehistory.

BROADENING THE DATA SETS FOR ALASKA PREHISTORY

In the past 30 years in Alaska we have seen much growth in the field of Alaskan archaeology and the development of new specializations such as geo-archaeology and paleo-ecology. The language and ethnographic records for Alaska have also expanded with the work of small groups of linguists and ethnographers. Some Arctic and Subarctic scholars have tried to bridge archaeology, ethnography and/or linguistics, such as Dumond and Bland (1995), Burch (1998), Ives (1990), and Fortescue (1998). However, in Alaska the clear trend has been toward autonomy between the data sets and the academic audiences of archaeological, linguistic, and ethnographic research. The editorial approach of West (1996), with its focus on assemblages and only for the earliest components in sites (older than 8000 b.p.), treats the reconstruction of culture histories as if it is a tabooed subject.

In some parts of the world interdisciplinary prehistory, sometimes called "synthetic prehistory," is advancing rapidly. This emerging field, as in the recent works by Renfrew and others (Renfrew 2000; Renfrew et al. 2000), can combine archaeology, linguistics, palaeoecology, and physical anthropology. Exciting work in this field is taking place for the prehistories of Europe, Africa, and Oceania.

Athabascan, with about 35 languages, is the largest language family in North America of comparable homogeneity. A theory of Athabascan prehistory should address the geographic, linguistic and archaeological correlates of early occupation by Athabascan peoples, the expansion or migration of bands, and the formation of language and dialect complexes. In the models of New World occupation outlined by Nichols (1992) or Fortescue (1998) we can explore scenarios where Athabascan peoples were present in parts of unglaciated Beringia in the holocene and hypsithermal periods as areas became revealed during stages of deglaciation.

The ethnographic/anthropological tradition in Athabascan linguistics was developed by the first-gen-

eration of Athabascanists: A. G. Morice, Pliny Goddard, Jules Jetté, and most notably Edward Sapir. (Krauss [1986] provides an account of the colorful early history of the field of Athabascan.) In the past 30 years the field of Athabascan linguistics has grown considerably, and many more languages are well documented. Published and unpublished data from many languages have advanced the historical reconstruction of Athabascan phonology (Krauss 1973, 1979; Leer 1979, 1981). The annual Athabascan languages conference reflects the emphases of current work, and it is clear that very little work in Athabascan linguistics in the past 30 years bridges the ethnographic interests that were typical of the first generation of Athabascanists.

We need more dialogue across linguistics, ethnography, and archaeology in the field of Athabascan in Alaska and throughout the sub-areas of the language family. Golla's (2000) article on Pacific Coast Athabascan in the context of neighboring unrelated languages and several archaeological traditions of northern California and western Oregon is the broadest inter-disciplinary study in the field of Athabascan in recent years. Ives' (2003) paper on the archaeological traces of Athabascans in the Northern Plains prior to the southward movement of Apachean bands is stimulating. However, the linguistic data that could most directly contribute to Ives' problem, from Beaver and Tsuut'ine (Sarcee), are lacking or are not readily available. Burch's (1998) and Raboff's (2001) ethnohistoric studies of northwest Alaska in the 19th century raise interesting questions about the shifting Athabascan / Eskimo boundaries in proto-historic and historic times. Problems in the Athabascan/Eskimo interface can be advanced by the integration of language and archaeology. For example, we might examine how bow and arrow terminology is reflected in Proto-Eskimo vs. Proto-Athabascan, and how this relates to the southerly diffusion of the bow and arrow in North America. Reconstruction of biological terms in Athabascan prehistory (for example the "spruce problem") calls for good descriptive field work and the integration of biogeographic and paleoecological materials. Interesting analysis can be done for everyday proto-Athabascan items such as housing, snowshoes, or clothing, but terminologies in these fields need more work, especially for several Canadian languages. Phonological and morphological reconstructions of proto-Athabascan have advanced in the past 30 years, but the semantic reconstruction of Athabascan is constrained by the limited ethnographic and natural history perspectives in much recent Athabascan lexicography.

PROSPECTS FOR ATHABASCAN RESEARCH IN ALASKA

After 30-plus years of doing Athabascan documentary linguistics on a regular basis and now seven years into retirement, I remain idealistic about the importance of Athabascan language work. In retrospect, some of the goals of our social agenda from the 1970s have been realized in Alaska whereas others have not. I could discuss at length the contradictions I see between: (1) the continuing validity of my research program and its acceptance by the experts of the Ahtna and Dena'ina languages; (2) the general passivity toward both practical or technical language work by Ahtna and Dena'ina people; and (3) the lack of academic development in linguistics and anthropology for Alaska Athabascan. The opportunities for documentary work in Alaska Athabascan languages have changed dramatically as we have lost so many of the great experts. To be sure, the documentary record for the Athabascan languages from the past 30 years will loom large in future work with Northern Athabascan.

In Alaska we have not been successful at connecting the human resources for the field of Athabascan with the best research materials, and the incipient technologies and methodologies. It is possible to propose numerous projects and goals for Alaska Athabascan research for the early 21st century. There are good prospects for work that can combine language revitalization, linguistic and cultural documentation, and several fields such as ethnohistory, ecology, and archaeology.

It is fair to say that recruitment over the past 30 years into technical work on Alaska Athabascan languages has been weak. The 1979 survey article by Krauss summarizes the many language projects and the climate of the 1970s at ANLC on Athabascan and Eskimo languages. The bibliography by Krauss and McGary (1980) chronicles the florescence of work in Alaska Athabascan in the 1970s, and is valuable for identifying early documentary materials and gray literature publications such as curriculum and reports. However, the pace of documentation on most of the Athabascan languages peaked and then diminished by the mid-1980s. Students in Alaska have had no opportunities to take intermediate and advanced course work on Athabascan linguistics. There have been just five linguistics doctoral dissertations on Alaska Athabascan languages, none of which were done at the University of Alaska.[4] By 1990 we had a shortage of linguistic expertise in Alaska,

[4]These are Dena'ina (Tenebaum 1978), Koyukon (Axelrod 1990; Thompson 1989), Lower Tanana (Tuttle 1998); and Tanacross (Holton 2000). Gary Holton and Siri Tuttle have worked in Alaska after their dissertations.

particularly in the Athabascan languages, and noticeably less documentation work has been taking place. It is ironic that Keren Rice's (2000) theoretical study of morpheme order in the Athabascan verb cites all of the published and unpublished sources on Alaskan Athabascan, but these same sources probably have never been used in course work at the University of Alaska. There are parallels in the field of Athabascan anthropology in Alaska. There has been important Athabascan research by several scholars,[5] however, there are no specialists in Athabascan in the two main University of Alaska anthropology departments, and Athabascan course work is rarely offered. Ironically, the best anthropological and linguistic work on Alaska Athabascan does not seem to be read or discussed at the University of Alaska.

This is an interesting time in Athabascan Alaska. There is an emerging pan-Athabascan (or pan-Dene) identity which has the potential to revamp the concept of Athabascan studies. Many older and younger Athabascans show strong interest in their languages and in their beliefs, histories, sites, and territories. There is a positive climate for language work and language learning and for many types of academic and practical research in Athabascan. We see more Alaska Athabascans who are committed to learning to speak their languages as adults. Motivated adult learners who become versed in the documentary work on their languages can contribute to the language scholarship and pedagogy.

I think that there will be a new generation of scholars and specialists who are committed to the Athabascan languages and the speech communities, as well as to the regional records and the interdisciplinary methods of language work. The University of Alaska Fairbanks can be the center for creative cultural studies and language work, however, this depends upon faculty-level leadership and planning and coordination for an ambitious agenda. It may be possible for Athabascan studies to grow into an inter-regional and interdisciplinary field that involves academic areas such as linguistics, anthropology, folklore, ethnohistory, biology, genetics, and ecology as well as applied fields such as information technology, pedagogy, curriculum development, archival methods and museum studies. The study of Athabascan prehistory and expansion has special fascination and the potential to build inter-regional links throughout the Athabascan language family *and* between different academic disciplines.

ANTICIPATING TRANSITION IN ALASKA ATHABASCAN DOCUMENTARY LINGUISTICS

Having been the only specialist in the Ahtna and Dena'ina languages for the past 30 years, I contemplate a myriad of practical and technical issues at my well-equipped home office. In terms of planning and funding, I can list out many goals and objectives for the Alaska Athabascan languages. Some new efforts will be needed to bridge the paper-digital transition in archival materials on Alaska Native languages. We have seen a major shift in field and post-field methodologies with the advent of computerization, especially as desk-top computers became adequate for the processing of machine-readable dictionary files. The slip files I did between 1973 and the mid-1980s were incorporated into computer files. I have noted the change in my field notes over these years. My notes used to be much more discursive. Now that my materials are in an array of formats—audio tapes, maps, notes, and computer files—my notes have become more selective, cryptic and uncontextualized. I have taken steps to index and digitize audio for these languages, and I know the content of these audio collections. With the facilities at my home office, I find that short, well-planned field work sessions can generate weeks or even months of follow-up language work.

Publication in Alaska Native languages involves difficult choices between lead time, cost, and the identification of audiences. I have found that the larger, longer publications usurp my time from other projects. Perhaps systems for on-demand publication can offer a greater array of materials at a basic cost for reproduction. There is good potential for the development of local archives for many of the Alaska Native languages. Local archives can incorporate all materials on the language and anthropology of the region, including photographs, genealogies and valuable heirlooms. Consolidated audio collections for the languages that cannot be held at a single centralized archive can be fostered at local archives. These local archives can become the focal point of the future work in these languages.

Writing about Athabascan is what makes me optimistic about the field. When working on materials for the 2003 edition of S*hem Pete's Alaska,* we kept recalling many subtle messages that Shem shared. We can strive for an editorial level that blends the profound Athabascan linguistic, cultural, and historic information, and that brings these research materials to disparate audiences.

[5]Some important contributions to Alaskan Athabascan anthropology are O'Brien (1997) on Gwich'in material culture; Krupa (1996) on the religious philosophy of Peter John; Potter (1997), a comprehensive summary of archaeological work in the Copper River drainage; and Raboff (2001), a detailed ethnohistoric study of the Eskimo-Athabascan interface in Northwest Alaska in the 19th century.

REFERENCES

Axelrod, Melissa
1990 The Semantics of Temporal Categorization: the Aspectual System of Koyukon Athabaskan. Unpublished Ph.D. dissertation, Department of Linguistics, University of Colorado, Boulder.

Boraas, Alan, Joey Girves, and Rebecca Lambourn
2001 Pre-Contact Fishing, Kenai River, Alaska. Paper presented at the March 2001 Alaska Anthropological Conference. Manuscript in author's possession.

Branson, John
2003 Recent Discoveries in Lake Clark National Park and Preserve Coincide with April Archeology Month in Alaska. Manuscript, Lake Clark-Katmai National Park, Anchorage.

Buck, Mildred and James Kari
1975 *Ahtna Noun Dictionary.* Alaska Native Language Center, University of Alaska Fairbanks.

Burch, Ernest F.
1998 *The Iñupiaq Eskimo Nations of Northwest Alaska*. University of Alaska Press, Fairbanks.

De Angulo, Jaime
1977 [1950] *Indians in Overalls*. The Turtle Island Foundation, Berkley.

Diebold, A. Richard
1987 Linguistic Ways to Prehistory. In *Proto-Indo-European: The Archaeology of a Linguistic Problem*, edited by S. N. Skomal and E. C. Palome, pp. 19-71. Institute for the Study of Man, Washington, D.C.

Drozda, Robert, Hultman Kiokun, and Howard Amos
2002 Qikertamteni Nunat Atrit Nuniwarmiuni: The Names of Places on Our Island Nunivak [map]. Nuniwarmiut Piciryarata Tamaryalkuti, Inc., Mekoryuk, AK.

Dumond, Don E. and Richard L. Bland
1995 Holocene Prehistory of the Northernmost North Pacific. *Journal of World Prehistory* 9:401-451.

Finney, Bruce P., Irene Gregory-Eaves, Marianne S. V. Douglas, and John P. Snol
2002 Fisheries Productivity in the Northeastern Pacific Ocean over the Past 2,200 Years. *Nature* 416(18) April, 2002:729-733.

Fortescue, Michael
1998 *Language Relations Across the Bering Strait.* Cassell, London and New York.

Golla, Victor
2000 Language History and Communicative Strategies in Aboriginal California. In *Languages of the Pacific Rim.* Faculty of Infomatics, Vol. 5:43-64. Osaka Gakuin University, Suita, Japan.

Hammerich, Louis L.
1960. Some Linguistic Problems in the Arctic. *Acta Arctica 12*:83-89 (edited by Helge Larson).

Hinton, Leanne and Ken Hale (editors)
2001 *The Green Book of Language Revitalization in Practice.* Academic Press, San Diego.

Holton, Gary
2000 The Phonology and Morphology of the Tanacross Athabaskan Verb. Unpublished Ph.D. dissertation, Department of Linguistics, University of California at Santa Barbara.

Himmelmann, Nikolaus P.
1998 Documentary and Descriptive Linguistics. *Linguistics* 36:161-195.

Illich, Ivan
1978 *Toward a History of Needs*. Pantheon Books, New York.

1980 Vernacular Values. *CoEvolution Quarterly* 26:22-49.

Ives, John W.
1990 *A Theory of Northern Athapaskan Prehistory*. Westview Press, Boulder.

2003 Alberta, Athapaskans, and Apachean Origins. In *Archaeology in Alberta: A View from the Millennium*, edited by J. W. Bink and J. F. Dormar, pp. 256-289. Archaeological Society of Alberta, Medicine Hat.

Jetté, Jules and Eliza Jones
2000 *Koyukon Athabaskan Dictionary*. Alaska Native Language Center, University of Alaska Fairbanks.

Kalifornsky, Peter
1991 *A Dena'ina Legacy, K'tl'egh'i Sukdu: The Collected Writings of Peter Kalifornsky.* Alaska Native Language Center, University of Alaska Fairbanks.

Kari, James
1975 A Classification of Tanaina Dialects. *Anthropological Papers of the University of Alaska* 17.2:49-53.

1977 *Dena'ina Noun Dictionary.* Alaska Native Language Center, University of Alaska Fairbanks.

1978a *Deg Xinag (Ingalik) Noun Dictionary.* Alaska Native Language Center, University of Alaska Fairbanks.

1978b *Holikachuk Noun Dictionary.* Alaska Native Language Center, University of Alaska Fairbanks.

1979 *Athabaskan Verb Theme Categories: Ahtna*. Alaska Native Language Center Research Papers, No. 2. University of Alaska Fairbanks.

1988 Some Linguistic Insights into Dena'ina Prehistory. In *The Late Prehistoric Development of Alaska's Native People,* edited by R. D. Shaw, R. K. Harritt, and D. E. Dumond, pp. 319-339. Aurora, Alaska Anthropological Association Monograph Series 4.

1989 Affix Positions and Zones in the Athabaskan Verb Complex: Ahtna and Navajo. *International Journal of American Linguistics* 55:424-455.

1990 *Ahtna Athabaskan Dictionary.* Alaska Native Language Center, University of Alaska Fairbanks.

1991 On the Language Effort and Work in Alaskan Athabascan Languages. *The Council* (December). Tanana Chiefs Conference, Inc., Fairbanks.

1992 Some Concepts in Ahtna Athabaskan Word Formation. In *Morphology Now*, edited by Mark Aronoff, pp. 107-133. SUNY Series in Linguistics. SUNY Press, Albany.

1994 *Dictionary of Dena'ina Athabaskan, Vol. 1: Topical Vocabulary* (draft). Alaska Native Language Center, University of Alaska Fairbanks.

1996a Names as Signs: the Distribution of 'Stream' and 'Mountain' in Alaskan Athabaskan. In *Athabaskan Language Studies, Essays in Honor of Robert W. Young*, edited by E. Jelinek, S. Midgette, K. Rice, and L. Saxon, pp. 443-475. The University of New Mexico Press, Albuquerque.

1996b Linguistic Traces of Dena'ina Strategy at the Archaic Periphery. In *Adventures Through Time: Readings in the Anthropology of Cook Inlet*, edited by N.Y. Davis and W. Davis, pp. 49-64. The Cook Inlet Historical Society, Anchorage.

1996c A Preliminary View of Hydronymic Districts in Northern Athabaskan Prehistory. *Names* 44:253-271.

2002 Some Observations about Fish Terms in Athabascan Languages. *Proceedings of the 2002 Athabascan Languages Conference*. Alaska Native Language Center Working Papers No. 2:15-36. University of Alaska Fairbanks.

Kari, James and James Fall
2003 [1987] *Shem Pete's Alaska: The Territory of the Upper Cook Inlet Dena'ina* (2nd edition). University of Alaska Press, Fairbanks.

Kari, Priscilla Russell
1987 *Dena'ina K'et'una, Tanaina Plantlore: An Ethnobotany of the Dena'ina Indians of Southcentral Alaska* (Third Edition). Joint publication by the Alaska Native Language Center - University of Alaska Fairbanks, the Alaska Natural History Association, Anchorage, and the National Park Service, Anchorage.

Krauss, Michael E.
1973 Na-Dene. *Current Trends in Linguistics* 10:903-978.

1974 Minto-Nenana Athabaskan Noun Dictionary. Alaska Native Language Center, University of Alaska Fairbanks.

1979 Na-Dene and Eskimo-Aleut. In *The Languages in Native America*, edited by L. Campbell and M. Mithun, pp. 803-902. University of Texas Press, Austin.

1980 *Alaska Native Languages: Past, Present, and Future.* Alaska Native Language Center Research Paper No. 3. University of Alaska Fairbanks.

1986 Edward Sapir and Athabaskan Linguistics. In *New Perspectives in Language, Culture and Personality: Proceedings of the Edward Sapir Centenary Conference*, edited by William Cowan, Michael K. Foster and Konrad Koerner, pp. 147-190. John Benjamins Co., Amsterdam.

Krauss, Michael E. and Jeff Leer
1981 *Athabaskan, Eyak, and Tlingit Sonorants*. Alaska Native Language Center Research Papers No. 5. University of Alaska Fairbanks.

Krauss, Michael E. and Jane McGary
1980 *Alaska Native Languages: A Bibliographical Catalogue, Part One: Indian Languages*. Alaska Native Language Center Research Papers No. 3. University of Alaska Fairbanks.

Krupa, David J.
1996 *The Gospel According to Peter John*. Alaska Native Knowledge Network, Fairbanks.

Leer, Jeff
1979 *Proto-Athabaskan Verb Stem Variation, Part 1: Phonology*. Alaska Native Language Center Research Papers No. 1. University of Alaska Fairbanks.

Leer, Jeff, Doug Hitch and John Ritter
2001 *Inland Tlingit Noun Dictionary*. Yukon Native Language Centre, Whitehorse.

Nichols, Johanna
1992 *Linguistic Diversity in Time and Space*. University of Chicago Press, Chicago.

O'Brien, Thomas A.
1997 Athabaskan Implements from the Skin House Days. Master's thesis, Department of Anthropology, University of Alaska Fairbanks.

Potter, Ben Austin
1997 A First Approximation of Ahtna Region Archaeology. Master's thesis, Department of Anthropology, University of Alaska Fairbanks.

Raboff, Adeline Peter
2001 *Iñuksuk: Northern Koyukon, Gwich'in and Lower Tanana, 1800-1901*. Alaska Native Knowledge Network, Fairbanks.

Reger, Douglas R.
1998 Archaeology of the Northern Kenai Peninsula and Upper Cook Inlet. *Arctic Anthropology* 35(1):160-171.

Reger, Douglas R. and Alan Boraas
1996 An Overview of the Radiocarbon Chronology in Cook Inlet Prehistory. In *Adventures through Time: Readings in the Anthropology of Cook Inlet*, edited by N.Y. Davis and W. Davis, pp. 155-172. The Cook Inlet Historical Society, Anchorage.

Renfrew, Colin
2000 At the Edge of Knowability: Toward a Prehistory of Languages. *Cambridge Archaeological Journal* 10:7-34.

Renfrew, Colin, A. McMahon and L. Trask (Editors)
2000 *Time Depth in Historical Linguistics*. The MacDonald Institute, Cambridge, UK.

Rice, Keren
2000 *Morpheme Order and Semantic Scope, Word Formation in the Athapaskan Verb*. Cambridge Studies in Linguistics 90. Cambridge University Press, Cambridge.

Rigsby, Bruce and James Kari
1987 Gitksan and Wet'suwet'en Linguistic Relations. Gitksan-Wet'suwet'en Tribal Council, Hazelton, B.C.

Russell, Priscilla N. and George C. West
2003 *Bird Traditions of the Lime Village Area Dena'ina, Upper Stony River Ethno-Ornithology*. Alaska Native Knowledge Network, Fairbanks.

Sapir, Edward
1916 [1949] Time Perspective in Aboriginal North America. In *The Selected Writings of Edward Sapir*, edited by D. G. Mandlebaum, pp. 389-462. University of California Press, Berkley.

1921 *Language, an Introduction to the Study of Speech*. Harcourt, Brace & World, Inc., New York.

Simeone, William E. and James Kari
2002 Traditional Knowledge and Fishing Practices of the Ahtna of Copper River, Alaska. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 270, Anchorage.

Snyder, Gary
1977 *The Old Ways: Six Essays*. City Lights Books, San Francisco.

Tenenbaum, Joan M.
1978 The Morphology of the Tanaina Verb. Ph.D. dissertation, Department of Linguistics, Columbia University, New York.

Thompson, Chad L.
1989 Voice and Obviation in Athabaskan and other Languages. Ph.D. dissertation, Department of Linguistics, University of Oregon, Eugene.

Tuttle, Siri G.
1998 Metrical and Tonal Structures in Tanana Athabaskan. Ph.D. dissertation, Department of Linguistics, University of Washington, Seattle.

United States Geological Survey
2001 Pribilof Islands quad maps, 1:25,000 scale.

Wassillie, Albert
1979 *Dena'ina Qenaga Duch'duldih, Dena'ina Athabaskan Junior Dictionary*. National Bilingual Materials Development Center, Anchorage.

1980 *Nuvendaltun Ht'ana Sukdu'a, Nondalton People's Stories*. National Bilingual Materials Development Center, Anchorage.

West, Frederick Hadleigh (editor)
1996 *American Beginnings: The Prehistory and Palaeoecology of Beringia*. University of Chicago Press, Chicago.

Workman, Karen W.
1996 An Archaeological Definition of Dena'ina. In *Adventures Through Time, Readings in the Anthropology of Cook Inlet, Alaska*. Edited By Nancy Yaw Davis and William E. Davis, pp. 207-220. Cook Inlet Historical Society, Anchorage.

Yukon Native Language Centre
1999 Place Names in Native Languages [map]. Yukon Native Language Centre, Whitehorse.